

(including a video stream) **146** and store them into memory **102**, modify characteristics of a still image or video, or delete a still image or video from memory **102**.

[0046] In some embodiments, the device **100** is a device where operation of a predefined set of functions on the device is performed exclusively or primarily through the click wheel **114**. By using the click wheel **114** as the primary input/control device for operation of the device **100**, the number of physical input/control devices (such as push buttons, dials, and the like) on the device **100** may be reduced.

[0047] FIG. 2A illustrates a portable communications device **100** having a physical click wheel input device in accordance with some embodiments. In FIG. 2A, device **100** includes a click wheel **114** and a separate display **112**. FIG. 2B illustrates a portable communications device having a virtual click wheel input device in accordance with some embodiments. In FIG. 2B, device **100** includes a virtual click wheel **114** displayed on a touch screen display **112**. The click wheel constitutes an interface for receiving user commands (such as selection of one of more items and/or icons that are displayed on the display **112**) and/or navigation commands (which may, for example, control scrolling through the items and/or icons that are displayed on the display **112**). The user may use the click wheel **114** by touching it (making a point of contact) and then moving the point of contact while maintaining contact. The angular displacement of the user's point of contact may indicate a navigation command to scroll through the items and/or icons that are displayed on the display **112**. In an exemplary telephone application the angular displacement of the point of contact is used to rotate an image that includes digit icons arranged in a circle (an image that may resemble a rotary telephone dial). By pressing down on the click wheel **114**, or on a click wheel button **210** (e.g., at the center of the click wheel), the user may select one or more items and/or icons that are displayed on the display **112**. Thus, a pressing down gesture may indicate a user command corresponding to selection. Alternatively, breaking contact with a click wheel image on a touch screen surface may indicate a user command corresponding to selection. The angular displacement of the point of contact may also be used for selecting digit icons or other symbols arranged in a circle in other applications as well.

[0048] The device **100** may display a menu or hierarchy of the applications that may be executed or run on the device **100**. For example, the displayed menu or hierarchy for the applications may include 'Favorites' for popular applications for this user; 'Recent' for listing the most recent calls that have been made, answered, and/or missed; 'Contacts' (which corresponds to the address book **140** in FIG. 1); 'Dial' (which corresponds to the telephone module **138** in FIG. 1) and 'SMS'. The menu or hierarchy may also include 'Music', 'Extras', 'Settings' and 'Now playing' icons that correspond to a music player module. The display **112** may also convey other information, such as an icon that indicates a remaining stored power level for the device **100**.

[0049] FIG. 3 is a flowchart illustrating a method of receiving and using numeric input in accordance with some embodiments. The processes shown in FIG. 3 (or subsets or supersets thereof) are performed by the portable communications device **100** (FIGS. 1 and 2). It will be appreciated by those of ordinary skill in the art that one or more of the acts described may be performed by hardware, software, or a combination thereof. In addition, it will be appreciated by those of ordinary skill in the art that some of the processes

shown in FIG. 3 (or subsets or supersets thereof) can be performed in a different order. FIG. 3 is described further below.

[0050] FIG. 4A-4C illustrate exemplary user interfaces for receiving and using numeric input in accordance with some embodiments. In some embodiments, a GUI in display **112** includes the following elements, or a subset or superset thereof:

[0051] image **402** that includes digits (e.g., 0-9) displayed in a circle;

[0052] a digit **404** that is highlighted if it is in a predefined area **408** of display, such as adjacent to area marker **410**; and

[0053] a sequence of determined digits **406** (e.g., a telephone number or portion thereof entered by a user).

[0054] In some embodiments, the digits in image **402** maintain their vertical orientation with respect to display **112** as image **402** rotates (e.g., **402-1**). In some other embodiments, the digits in image **402** do not maintain their vertical orientation with respect to display **112** as image **402** rotates (e.g., **402-2** and **402-3**).

[0055] Contact/motion module **130**, in conjunction with click wheel controller **158**, detects (302) a plurality of finger contacts with click wheel **114**. When a finger contact includes a digital dialing gesture, the finger contact includes an angular displacement of the finger contact on the click wheel **114** between an initial location and a final location of the finger contact on the click wheel. The initial location is a finger touch-down location and the final location is a finger lift-off location. The finger contact may be made with the user's thumb, index finger (e.g., **418**, which is not drawn to scale), or any other finger.

[0056] While the device is in a telephone number entry or dialing mode (or in any other number entry mode), the contact/motion module **130** may also detect finger contacts (e.g., taps or touches having no angular displacement, and/or finger contacts having angular displacements less than a predefined minimum threshold) that are not indicative of entered digits. These other finger contacts are processed in accordance with their context and the characteristics of the finger contact. In some cases, a finger contact that is not indicative of an entered digit may be ignored by the device, for example if the finger is deemed to be an accidental contact. Other finger contacts may be processed by the device as commands (e.g., a command to delete the last entered digit, a command to erase all entered digits, a command to dial the entered string of digits, etc.) when appropriate. Except where otherwise indicated, the term "finger contact" is used herein to mean finger contacts that are indicative of entered digits.

[0057] Display **112** displays (304) an image **402** that includes digits arranged in a circle. The image **402** rotates in response to each finger contact, and the amount of rotation is determined in accordance with the angular displacement of the finger contact. In some embodiments, each digit in image **402** is circled, which makes the image look more like a rotary dial.

[0058] For each finger contact, telephone module **138**, in conjunction with contact/motion module **130**, determines (306) a digit. The determined digit is independent of the initial location of the finger contact on the click wheel. This independence makes entry of numeric data simpler and faster than on a conventional rotary dial telephone because the user does not have to start with his or her finger in a particular location on the click wheel to enter a particular digit.